## REMARKS

Claims 1-163 are pending at the time of the Office Action. In the Office Action mailed October 4, 2007, the Examiner took the following action: (1) object to the disclosure because of informalities; (2) rejected Claims 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 40, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 95, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 149 are under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention; (3) rejected Claims 1-7, 10, 45, 55-62, 65, 100, 110-116, 119, and 154 under 35 U.S.C. §102(b) as being anticipated by Pearson (U.S. 5,406,082); (4) rejected Claims 8-9, 11-44, 46-54, 63-64, 66-99, 101-109, 117-118, 120-153 and 155-163 under 35 U.S.C. §103(a) as being unpatentable over Pearson. Applicants hereby amend Claims 1, 2, 55, 56, and 110, and cancel claims 22, 77, and 131. Applicants respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

### *I. Examiner Interview*

Applicants respectfully express their appreciation to Examiner Moss for the telephonic interview held on January 11, 2008, during which the Examiner discussed the disposition of this case with Applicants' representative. Specifically, it is believed that agreement was reached with the Examiner that the objection to the disclosure and the rejection of claims under 35 U.S.C. §112 may be overcome by canceling the claims that include the trademark names, or incorporating into the Specification by reference Material Safety Data Sheets (MSDS) and/or other manufacturer product information relevant to the trademark names.

*II. Rejections under 35 U.S.C. 112, second paragraph*

The Office Action rejected Claims 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 40, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 95, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 149 are under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Claims 22, 77, and 131 are canceled. Applicants have amended the specification and incorporate by reference Material Safety Data sheets (MSDS) and/or other manufacturer product information for the trademarks recited in the remainder of the rejected claims. No new matter has been added. Thus, Applicants respectfully request reconsideration and withdrawal of these rejections.

*III. Rejections under 35 U.S.C. §102(b)*

Claims 1-7, 10, and 45

Claims 1-7, 10, and 45 are rejected under 35 U.S.C. §102(b) as being anticipated by Pearson. Claims 2-7, 10, and 45 depend from Claim 1. Claim 1, as amended, recites:

> 1. A non-destructive method for identifying a contaminant on a substrate, the method comprising:
> exposing the substrate to a multi-frequency infrared energy source;
> determining at least two infrared energy absorbance peaks, the first absorbance peak at a first wavenumber, and the second absorbance peak at a second wavenumber; and
> identifying the contaminant on the surface by correlating the at least two absorbance peaks to the known absorbance peaks of a contaminant at the first and second wavenumbers.

Applicants respectfully traverse the rejections. First, Pearson does not teach or suggest the determination of a plurality of absorbance peaks. Instead, Person discloses using various filters to pass light corresponding to the absorption band of hydrocarbon, (from about 3.35 micros to about 3.45 microns) to an absorption detector. (Column 3, Line 40 –Column 5, Line 8).

The absorption detector generates an analog signal corresponding to the intensity of the wavelength of the light it detects. (Column 5, Lines 9-10). In other words, while Pearson arguably discloses the detection of a single absorption peak that correlates to hydrocarbon, Pearson does not teach or suggest "determining *at least two infrared energy absorbance peaks*, the first absorbance peak at a first wavenumber, and the second absorbance peak at a second wavenumber," as recited in Claim 1. (Emphasis added).

Second, Pearson does not teach or suggest the identification of a contaminant based on a plurality of absorption peaks. Instead, Pearson discloses that the presence of hydrocarbon may be detected by a single absorption peak at 3.4 microns. (Column 9, Lines 65-68). Pearson also discloses the use of two reference detectors 32 and 36 to detect light corresponding to the wavelengths on each side of the hydrocarbon absorption band. (Column 10, Lines 6-12). However, the detection of wavelength on the sides of a particular absorption band is not equivalent to the detection of an absorption peak. Once again, while Pearson arguably discloses the detection of one absorption peak to identify the presence of hydrocarbon, Pearson does not teach or suggest "identifying the contaminant on the surface by correlating the *at least two absorbance peaks* to the known absorbance peaks of a contaminant at the first and second wavenumbers," as recited in Claim 1. (Emphasis added).

For at least the above reasons, Claim 1 is allowable over the cited reference to Pearson. Furthermore, since Claims 1-7, 10, and 45 depend from Claim 1, they are at least allowable for the same reasons that make Claim 1 allowable over Pearson.

Claims 55-62, 65, and 100

Claims 55-62, 65, and 100 are rejected under 35 U.S.C. §102(b) as being anticipated by Pearson. Claims 56-62, 65, and 100 depend from Claim 55. Claim 55, as amended, recites:

55. A non-destructive method for identifying a contaminant on a sample, the method comprising:
transmitting an infrared beam onto a sample;
detecting a reflected infrared beam reflected by the sample;
determining a first infrared absorbance peak of the sample from the reflected infrared beam at a first wavenumber;
determining a second infrared absorbance peak of the sample from the reflected infrared beam at a second wavenumber; and
identifying the contaminant by correlating the first infrared absorbance peak and the second infrared absorbance peak to a reference sample.

Applicants respectfully traverse the rejections. First, Pearson does not teach or suggest, "determining *a second* infrared absorbance peak of the sample from the reflected infrared beam at a second wavenumber," as recited in claim 55. (Emphasis added). As stated above, Person discloses using various filters to pass light corresponding to the absorption band of hydrocarbon, (from about 3.35 micros to about 3.45 microns). (Column 3, Line 40-Column 5, Line 8). However, Pearson only discloses using absorption detector for the purpose of detecting a single absorption peak at 3.4 microns. (Column 9, Lines 65-68).

Second, Pearson also does not teach or suggest the identification of a contaminant based on a plurality of absorption peaks. Instead, as stated above, Pearson discloses that the presence of hydrocarbon may be detected by a single absorption peak at 3.4 microns. (Column 9, Lines 65-68). Accordingly, Pearson does not teach or suggest "identifying the contaminant by correlating the *first infrared absorbance peak* and the *second infrared absorbance peak* to a reference sample," as recited in Claim 1. (Emphasis added).

For at least the above reasons, Claim 55 is allowable over the cited reference to Pearson. Furthermore, since Claims 55-62, 65, and 100 depend from Claim 55, they are at least allowable for the same reasons that make Claim 55 allowable over Pearson.

Claims 110-116, 119, and 154

Claims 111-116, 119, and 154 are rejected under 35 U.S.C. §102(b) as being anticipated by Pearson. Claims 111-116, 119 and 154 depend from Claim 110. Claim 110, as amended, recites:

> 110. A non-destructive method for detecting a contaminant on a sample, the method comprising:
> transmitting an infrared beam onto a sample;
> detecting a reflected infrared beam reflected by the sample;
> determining a first infrared absorbance peak of the sample from the reflected infrared beam at a first wavenumber;
> correlating the first infrared absorbance peak to a first absorbance peak of a contaminant at the first wavenumber;
> determining a second infrared absorbance peak of the sample from the reflected infrared beam at a second wavenumber; and
> confirming a presence of a predetermined amount of the contaminant on the surface by correlating the second infrared absorbance peak to a second absorbance peak of the contaminant at the second wavenumber.

Applicants respectfully traverse the rejections. First, Applicants incorporate the reasoning presented above presented above in response to the rejection of claim 55 under 35 U.S.C. §102(a), and assert that Pearson does not teach or suggest, in addition to "determining a first infrared absorbance peak of the sample from the reflected infrared beam at a first wavenumber," "determining *a second* infrared absorbance peak of the sample from the reflected infrared beam at a second wavenumber," as recited in claim 110," (Emphasis added).

Second, Pearson also does not teach or suggest the confirmation of the presence of a contaminant based on a second absorption peak. Instead, Pearson discloses that the presence of hydrocarbon may be detected by a single absorption peak at 3.4 microns. (Column 9, Lines 65-68). Accordingly, Pearson does not teach or suggest "confirming a presence of a predetermined amount of the contaminant on the surface by correlating the *second infrared absorbance peak* to

a second absorbance peak of the contaminant at the second wavenumber," as recited in Claim 110. (Emphasis added).

For at least the above reasons, Claim 110 is allowable over the cited reference to Pearson. Furthermore, since Claims 110-116, 119, and 154 depend from Claim 110, they are at least allowable for the same reasons that make Claim 55 allowable over Pearson.

*IV. Rejections under 35 U.S.C. §103(a)*

Claims 8-9, 11-44, and 46-54

Claims 8-9, 11-44, and 46-54 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pearson. Claim 22 is canceled. Claim 8-9, 11-21, 23-44, and 46-54 depend from claim 1. Applicants respectfully traverse the rejections. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 1 under 35 U.S.C. §102(b) as anticipated by Pearson. Accordingly, Applicants respectfully submit that the Pearson does not teach or suggest, as recited in claim 1:

> determining at least two infrared energy absorbance peaks, the first absorbance peak at a first wavenumber, and the second absorbance peak at a second wavenumber; and
> identifying the contaminant on the surface by correlating the at least two absorbance peaks to the known absorbance peaks of a contaminant at the first and second wavenumbers.

Furthermore, since Claim 8-9, 11-21, 23-44, and 46-54 depend from claim 1. depend from claim 1, they are at least allowable for the same reasons that make claim 1 allowable over the cited references.

Claims 63-64, 66-99, and 101-109

Claims 63-64, 66-99 and 101-109 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pearson. Claim 77 is canceled. Claim 63-64, 66-76, and 78-99 and 101-109 depend from claim 55. Applicants respectfully traverse the rejections. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 55 under 35 U.S.C. §102(b) as anticipated by Pearson. Accordingly, Applicants respectfully submit that the Pearson does not teach or suggest, as recited in claim 55:

> determining a second infrared absorbance peak of the sample from the reflected infrared beam at a second wavenumber; and
> identifying the contaminant by correlating the first infrared absorbance peak and the second infrared absorbance peak to a reference sample.

Furthermore, since Claims 63-64, 66-76, and 78-99 and 101-109 depend from claim 55, they are at least allowable for the same reasons that make claim 55 allowable over the cited references.

Claims 117-118, 120-153, and 155-163

Claims 117-118, 120-153, and 155-163 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pearson. Claim 131 is canceled. Claim 117-118, 120-130, 132-153, and 155-163 depend from claim 110. Applicants respectfully traverse the rejections. Specifically, Applicants incorporate the reasoning presented above in response to the rejection of claim 110 under 35 U.S.C. §102(b) as anticipated by Pearson. Accordingly, Applicants respectfully submit that the Pearson does not teach or suggest, as recited in claim 110:

> determining a second infrared absorbance peak of the sample from the reflected infrared beam at a second wavenumber; and
> confirming a presence of a predetermined amount of the contaminant on the surface by correlating the second infrared absorbance peak

to a second absorbance peak of the contaminant at the second wavenumber.

Furthermore, since Claims 117-118, 120-130, 132-153, and 155-163 depend from claim 110, they are at least allowable for the same reasons that make claim 110 allowable over the cited references.

## CONCLUSION

For the foregoing reasons, Applicants respectfully submit that Claims 1-21, 23-76, 78-130, and 132-163 are now in condition for allowance. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

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